

# Search for heavy Higgs decaying to two tau leptons with the ATLAS detector using pp collision at $\sqrt{s} = 13$ TeV

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This talk will cover the latest result of searching for heavy Higgs decaying to two tau leptons with the ATLAS full Run2 datasets using pp collision at  $\sqrt{s} = 13$  TeV. This search is performed over the mass range of 0.2-2.5 TeV and the two  $\tau$  leptons decay is considered, where at least one  $\tau$  decays leptonically. This channel is sensitive at high  $\tan\beta$  value according to hMSSM and other 2HDMs, where  $\tan\beta$  is the ratio of the vacuum expectation values of the two Higgs. The results of this search show that most of the parameter space of hMSSM is excluded with 95% CL.

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